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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/937,943 | 10/02/2001 | Akio Enomoto | 791 165 | 8702 |

7590

06/17/2004

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EXAMINER

STINSON, FRANKIE L

ART UNIT

PAPER NUMBER

1746

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,943

Applicant(s)

ENOMOTO ET AL.

Examiner

FRANKIE L. STINSON

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-27 is/are allowed.
- 6) ☒ Claim(s) 1,2,6-11,14-20,28 and 29 is/are rejected.
- 7) ☒ Claim(s) 3-5,12 and 13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/2/2001
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

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1. Claims 8 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 8, line 7-8, the phrase "the negative electrode plate" is without proper antecedent basis.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 6, 9-14, 16-20, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Suzuki et al. or Teramoto in view of Brennan, Coibion et al., Fairweather or Kelemen et al., or Sato et al.

Re claims 1 and 9, Teramoto and Suzuki are each cited disclosing a lithium secondary battery, comprising: a cylindrical battery case (2 in Suzuki and 12 in Teramoto) provided at both end portions (6, 6 in Suzuki and 15a, 15a in Teramoto) thereof with electrode caps having battery caps, internal terminals and external terminals (26A, 28A in Suzuki and not shown but inherent in Teramoto); and an electrode body (29 in Suzuki and 13 in Teramoto) impregnated with a nonaqueous electrolyte solution (see col. 4, line 38 in Suzuki and title of Teramoto) and contained in the battery case and including a positive electrode a negative electrode, and a separator the positive electrode and the negative electrode being wound or laminated through the separator; portions where said battery case is in contact with said electrode caps being brought into press-contact ("bead

process" in Suzuki and see col. 2, line 57 in Teramoto and col. 1, line 56) to form a caulked portions to execute sealing that differs from the claims only in the recitation of the $R(\text{body})$, being the diameter of a body part of said battery case and $R(\text{top})$ being the diameter of said caulked portion, fulfilling the relationship of $R(\text{body}) > R(\text{top})$. The patents to Coibion (fig. 1), Brennan (fig. 1), Fairweather, Kelemen and Sato (fig. 7) are each cited disclosing in a cells having caps/cover where there is an $R(\text{body})$ and an $R(\text{top})$, with the $R(\text{body}) > R(\text{top})$. It therefore would have been obvious to one having ordinary skill in the art to modify the cap/cover in either Suzuki or Teramoto, to meet the "greater than" relationship as instantly claimed for the purpose of ensuring the prevention of electrolyte leaking (as in Fairweather) or since Brennan suggest that various $R(\text{body})$ and $R(\text{top})$ relationships (see fig. 1 versus either fig. 9 or fig. 15) may be substituted for one another. Re claims 2, 10 and 11, Brennan, Suzuki and Teramoto disclose the aluminum material. Re claim 6, no patentable distinction is deemed to exist between the materials as claimed and the same as taught by the corresponding structure in any piece of the applied prior art (see MPEP 2144.06). This is also applicable to the subject matter of claim 17, namely the battery capacity. Re claims 18-20, to have the battery intended for use with a vehicle is deemed to be an obvious matter of design (see MPEP 211.02). Nonetheless, Teramoto discloses the vehicle usage (see col. 1, line 33). Re claims 14 and 28, Teramoto and Suzuki disclose the pipe. Re claim 16, Teramoto, Suzuki, Sato, Kelemen and Coibion and discloses the squeezed portion as claimed. Re claim 29, Teramoto discloses the welding.

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4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applied prior art as applied to claim 1 above, and further in view of Kita et al.

Claim 7 defines over the applied prior art only in the recitation of the injection port. Kita discloses the injection port (4). It therefore would have been obvious to one having ordinary skill in the art to modify the device of either Suzuki or Teramoto, to include an injection port as taught by Kita, for the purpose of allowing the introduction of the electrolyte after the sealing of the battery.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 8 and 15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Teramoto.

Re claim 8, note that Teramoto discloses an lithium secondary battery, comprising a cylindrical battery case provided with electrode caps (15a, 15a) at both end portions thereof; and an electrode body (13a) impregnated with a nonaqueous electrode solution and contained in the battery case and including a positive electrode, a negative electrode, and a separator (see col. 2, lines 38-52), the positive electrode and the negative electrode plate (*sic*) being wound or laminated through the separator; wherein, tip portions of said battery case and outer periphery portions of said electrode caps are brought into joining with squeezing processing, caulking, and welding (see BACKGROUND of INVENTION).

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7. Claims 3-5, 12 and 13 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. Claims 21-27 are allowed.
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In Tukawaki et al., Sandberg et al., Taakamura et al., Tucholski et al., Sugalski, Nagaura, Nakanishi, Satou et al., Hironaka et al., Watanabe et al., Shiue et al., Potter et al., Cook, Japan'367, Malay, and Audit et al., note the cell sealing means.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANKIE L. STINSON whose telephone number is (571) 272-1308. The examiner can normally be reached M-F from 5:30 a.m. to 2:00 p.m. and some Saturdays from 5:30 a.m. to 11:30 a.m.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to TECHNOLOGY CENTER 1700 (571) 272-1700.

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Any inquiry for missing parts of this Office Action (copies of references, pages, forms etc.), contact the TEAM LEADER Ms. Nicol Scott (571) 272-1045.

fls

A handwritten signature in black ink, appearing to read 'Frankie L. Stinson', with a stylized flourish at the end.

FRANKIE L. STINSON
Primary Examiner
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